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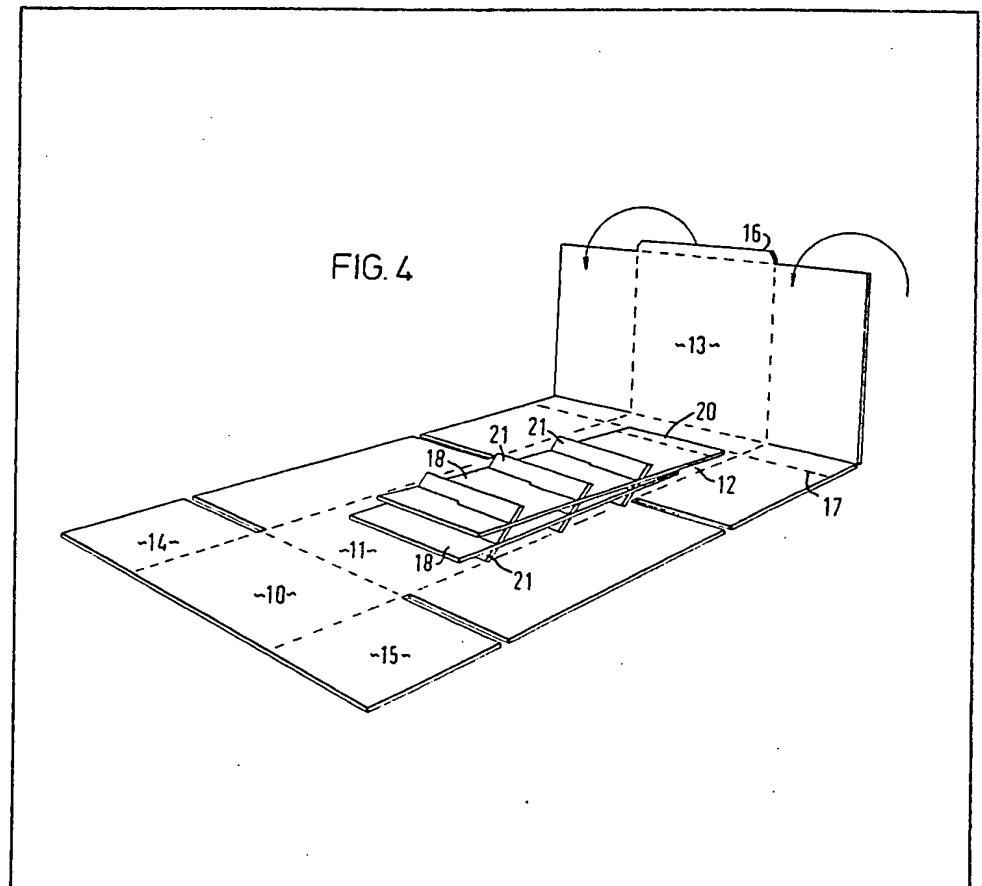
(12) UK Patent Application (19) GB (11) 2 055 350

A

- (21) Application No 7927511
- (22) Date of filing 7 Aug 1979
- (43) Application published
4 Mar 1981
- (51) INT CL³
B65D 5/48
- (52) Domestic classification
B8P E1B
- (56) Documents cited
GB 1279281
GB 929109
GB 258925
GB 241097
- (58) Field of search
B5D
B8P
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(54) Partitioned boxes

(57) A composite construction for eventual erection into a partitioned box is assembled by securing an attachment flap (20) of a collapsible partition assembly (18, 21) to a side wall panel (12) of a blank. The blank is then folded around the partition assembly (18, 21) and its opposite ends are secured together, for example by means of an end flap (16). The composite construction can be delivered to a customer in a generally flat condition. When the customer erects the box for use, the partition assembly is automatically deployed to divide the box into separate compartments.



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FIG. 1

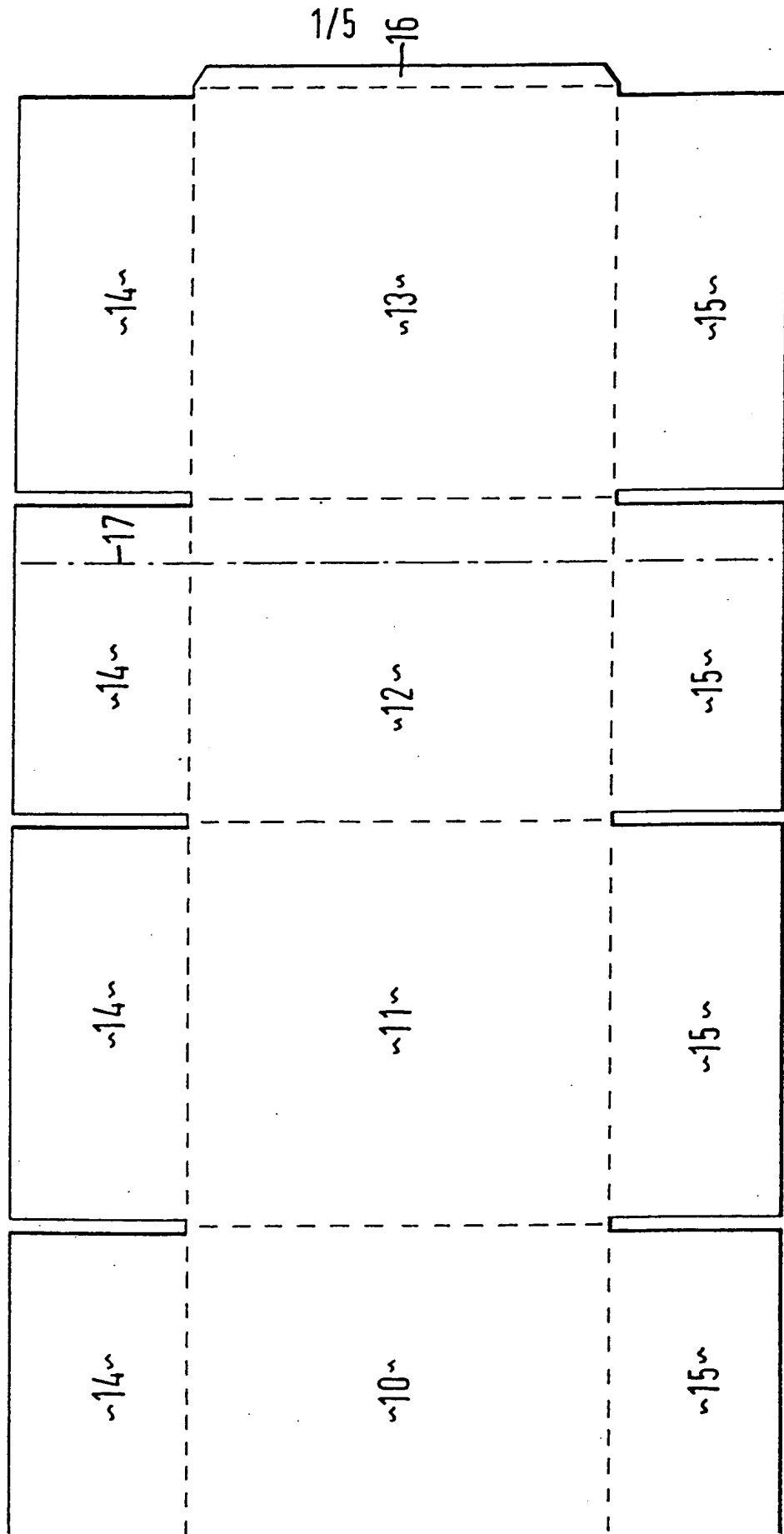
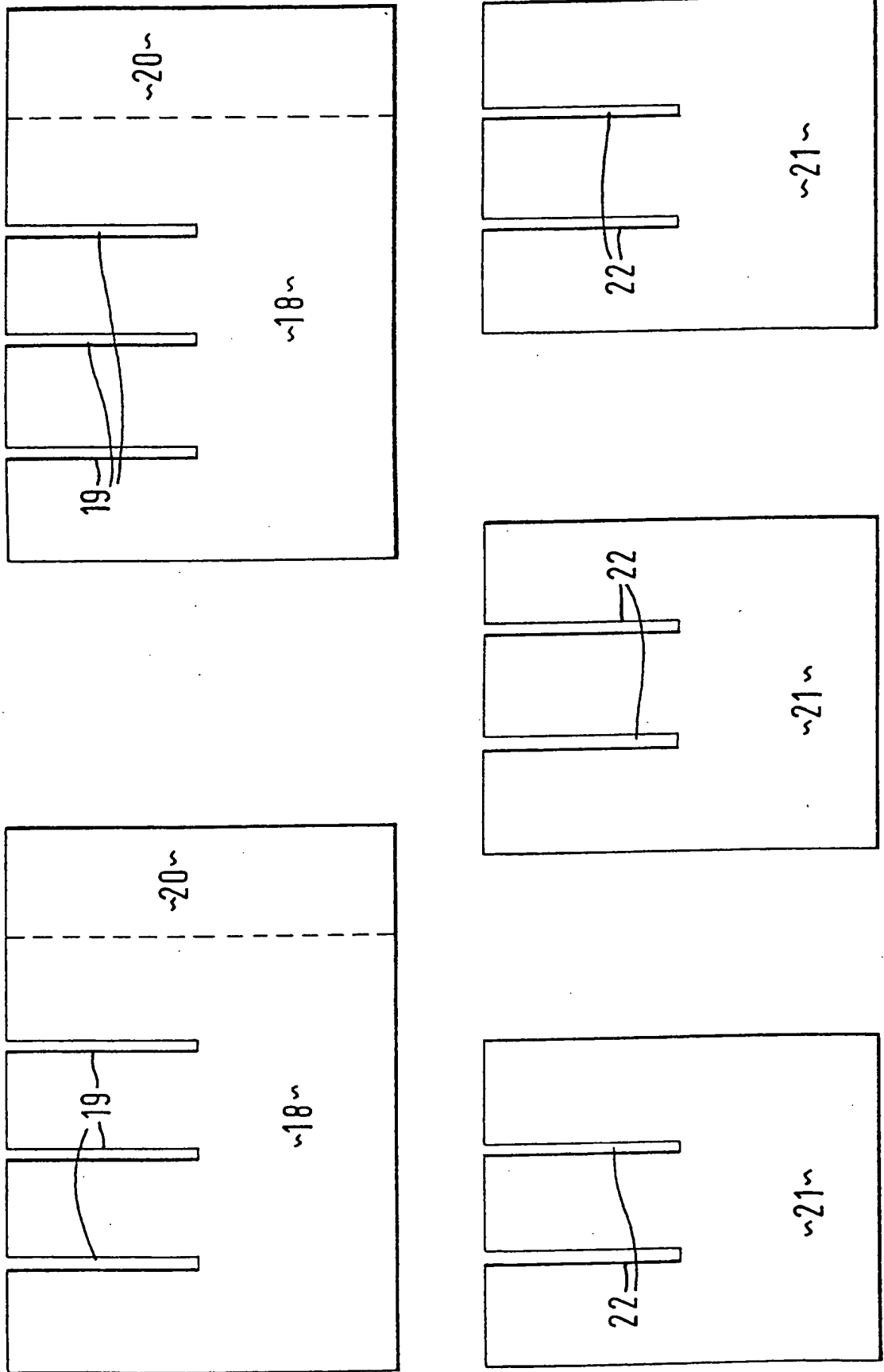
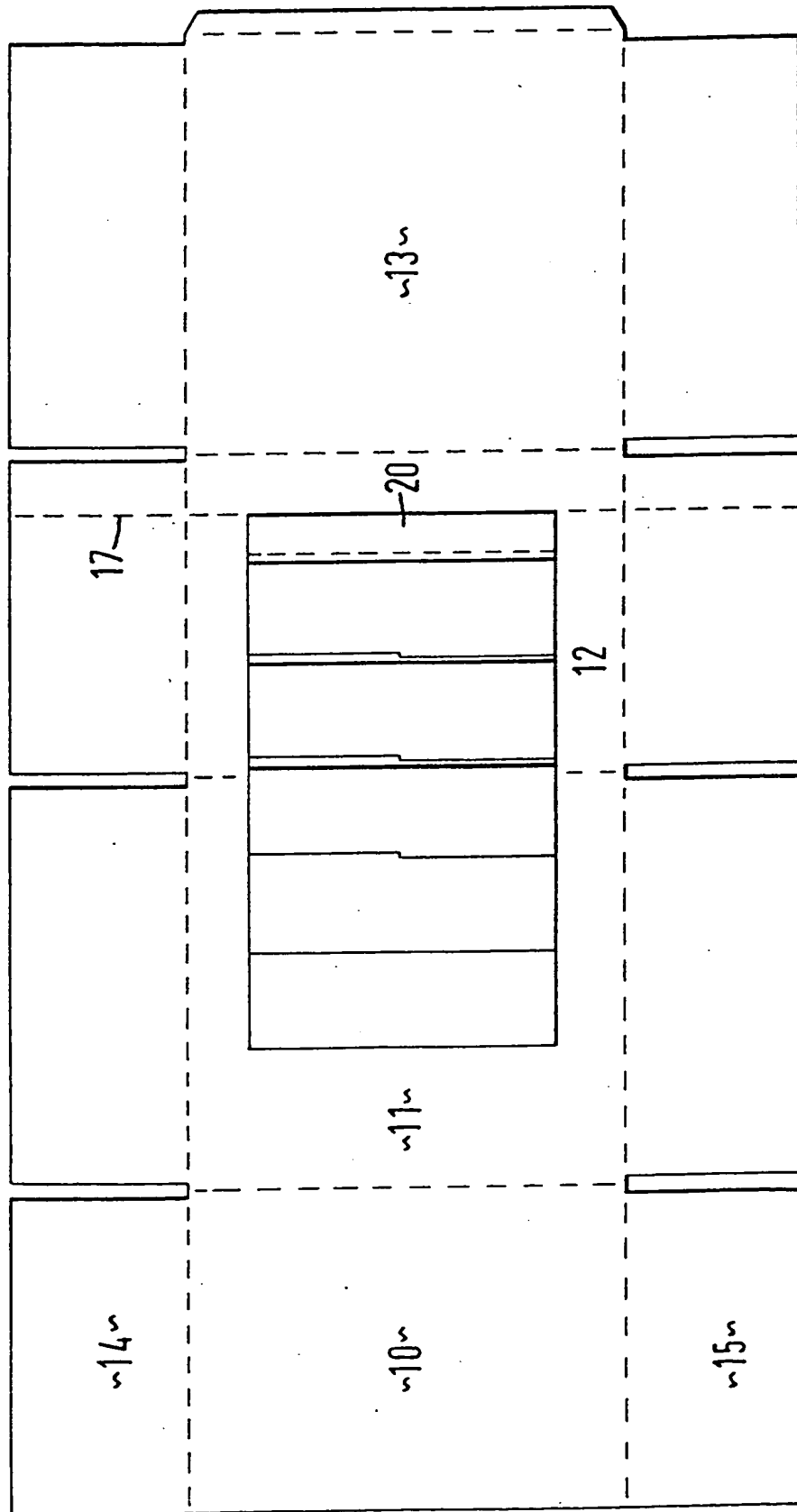


FIG. 2



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FIG. 3



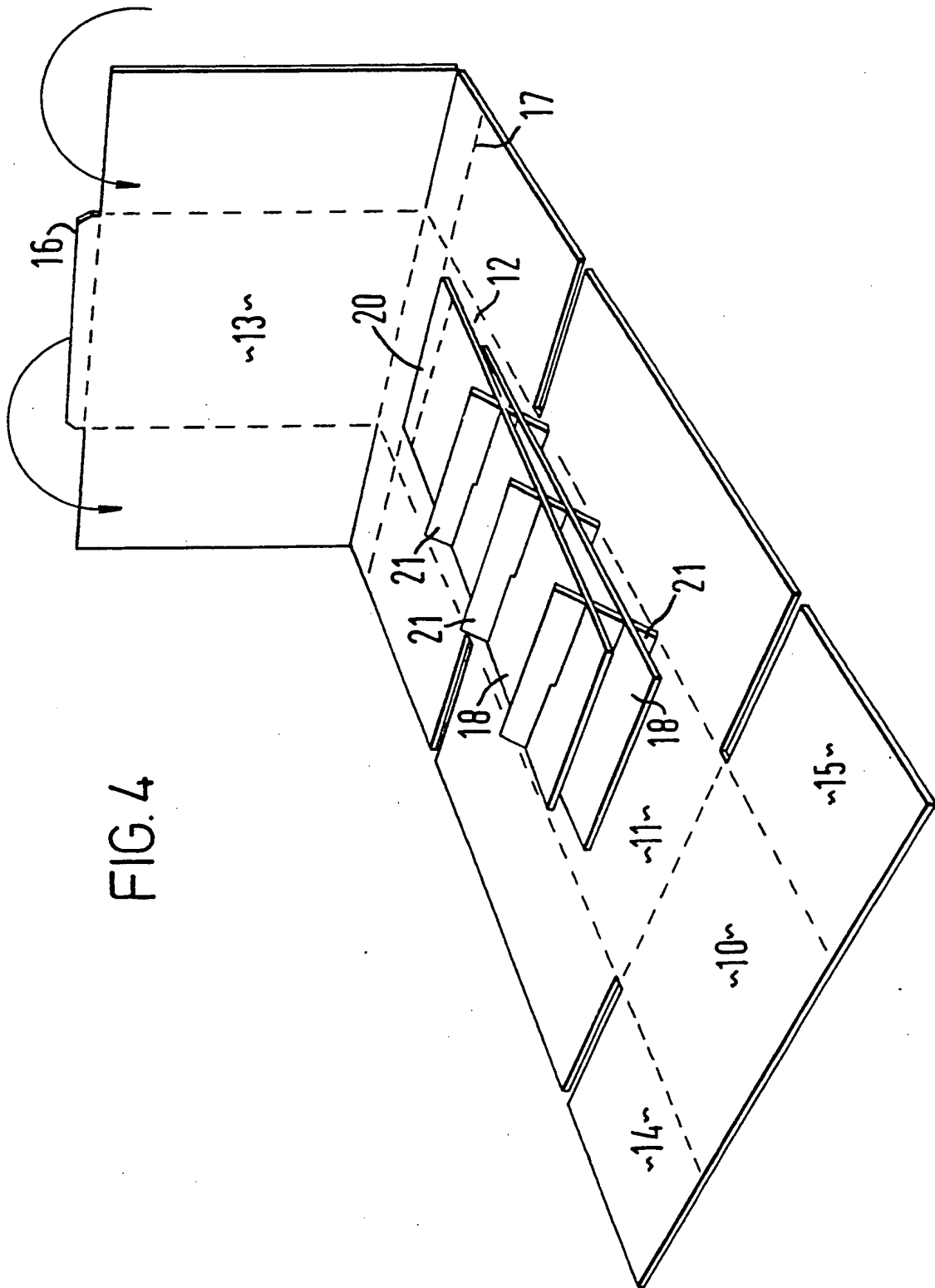
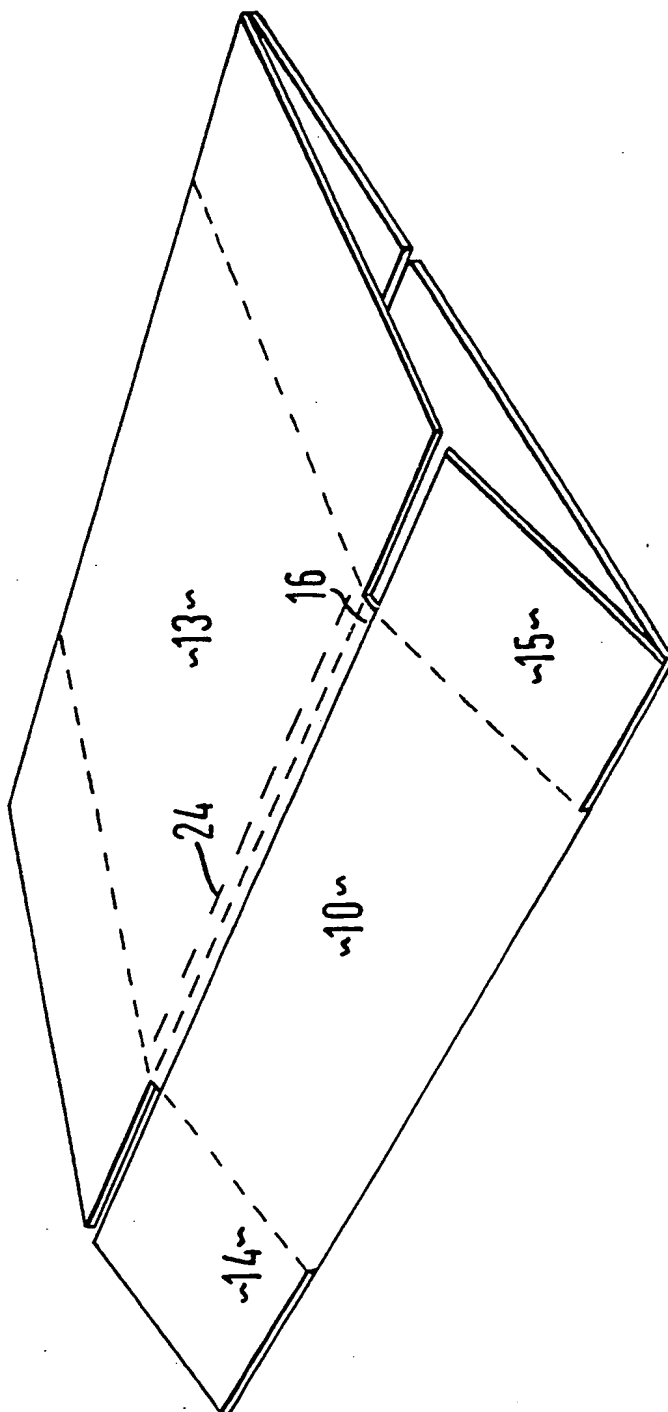


FIG. 4

FIG. 5



SPECIFICATION

Method of providing a foldable blank of stiff material with partitioning panels and a blank so provided

5 The blank which provides at least a tubular body portion for a rectangular box comprises four side wall panels and may for example be made of corrugated board. The partitioning panels constitute a fitment in the form of an assembly of slotted interlocked panels which in the erected box divide it into compartments or cells each of which may be loaded with a separate article, e.g. a bottle or jar.

10 In a typical method of fitting a rectangular box with an assembly of slotted interlocked partitioning panels a box blank is folded and glued to form an open top box and the assembly of panels is glued and manually inserted into the box to become bonded to it. Due to customary manufacturing tolerances it is difficult for the assembly of panels to become bonded in its correct position and this may cause a problem when the box and its assembly of panels are required to be collapsed in a substantially flat condition for storage or transport empty.

20 The present invention provides a method of accurately positioning the assembly of panels so as to avoid the above problem.

(1) A method of providing a foldable blank for making the tubular body portion of a rectangular box with a collapsible assembly of slotted interlocked partitioning panels, which blank is of stiff material and comprises four side wall panels, comprising the steps of

- a) providing a collapsible assembly of slotted interlocked partitioning panels which includes an attachment flap,
- b) collapsing the assembly and locating it on the inner two of the side wall panels of the foldable blank,
- c) bonding the attachment flap of the assembly to one of the inner two side wall panels,
- d) folding the side wall panels about their respective connecting fold lines to surround the assembly,
- e) connecting together the two end panels of the side wall panels to form a collapsed tubular body portion.

Preferably, the side wall panel to which the attachment flap is bonded is marked with a visual mark which assists the correct location of the attachment flap in step b).

50 The visual mark may be a line which extends across the marked side wall panel parallel to the fold line which connects the marked side wall panel to the adjacent outer side wall panel.

(II) A collapsible tubular body portion provided with a collapsible assembly of slotted interlocked partition panels by means of the above method.

By way of example the invention will now be described with reference to the accompanying drawings of which,

60 Figure 1 shows a flat blank for making a rectangular box,

Figure 2 shows five partition panels slotted for interlocking,

Figure 3 is a plan of the blank showing the location of an assembly of the partition panels,

Figure 4 is a perspective view showing the blank being folded around the assembly of the partition panels,

Figure 5 is a perspective view of the folded blank showing it in a collapsed condition.

The box blank of Figure 1 is of corrugated board provided with fold lines shown in chain line. The blank consists of four side wall panels 10-13 connected in series by parallel fold lines, sets of top and bottom closure flaps 14, 15 respectively and an end flap 16 for a manufacturer's lap joint. A visual location mark 17 is provided on one of the inner side wall panels 12. This mark takes the form of a line of shallow depressions formed in the viewed surface of the blank by an impression wheel. The line extends parallel to the fold line which connects panel 12 to outer or end panel 13.

Referring to Figure 2, there are shown two partition panels 18 provided with three slots 19 and attachment flaps 20 and three shorter partition panels 21 provided with two slots 22. The five panels are also of corrugated board.

The invention may be carried out in the following manner. Firstly the five slotted partition panels are assembled to provide a fitment in the form of an assembly of interlocked panels in known manner wherein the two panels 18 are parallel and the three panels 21 are parallel and interlock with the panels 18 at right angles. The fitment is then collapsed in known manner to a substantially flat condition and adhesive is applied to one side of one of the attachment flaps 20.

Referring to Figure 3, the collapsed assembly of partition panels 18, 21 is laid by an operative on top of the unfolded box blank so as to cover in part the two inner side wall panels 11-12, the glued attachment flap 20 contacting the panel 12 on its glued side so as to become bonded to the panel 12. The positioning of this attachment flap 20 is guided by the visual mark 17 in that the free end of the flap 20 is aligned with the mark 17 and thus the assembly of panels is correctly and accurately located on the blank. With reference to Figure 4 the blank is now folded around the collapsed assembly of panels. Outer side wall panel 13 is folded inwards to cover the adjacent portion of the collapsed assembly of panels and then outer side wall panel 10 is folded inwards to cover the remaining portion of the collapsed assembly and overlap the flap 16. Finally the panel 10 and flap 16 are secured together by stitching or staples 24 to complete the formation of a folded blank in the form of a tubular body portion with top and bottom end closure flaps, all collapsed to a substantially flat condition and surrounding the collapsed fitment or assembly.

In this condition the folded blank is stored or sent to a customer. When the partitioned box is required, the customer opens out the blank to a rectangular

shape, this operation automatically erecting the assembly so that the panels 18 extend at right angles to the panels 21, the bottom flaps 15 are glued and folded inwards to form a bottom end closure, the articles are loaded into the cells formed by the assembly, and finally the top flaps 14 are glued and folded inwards to form a top end closure.

The box blank and the partitioning panels may be of other material, e.g. solid board or a suitable stiff plastics material.

In a modified blank the end closure flaps are omitted, a box being formed by providing the tubular body portion with separate bottom and top caps.

Instead of gluing the appropriate attachment flap 20, the adhesive may be applied to the inner panel 12 in a transverse zone which is bounded on one side by the location mark 17.

The fitment may take any other form which effectively partitions the box provided that it includes an attachment flap for bonding to an inner side wall panel of the blank.

In the absence of the visual mark 17 the operative may use the fold line connecting the panels 12, 13 as a guide to correct positioning of the assembly of partition panels.

CLAIMS

1. A method of assembling a composite construction for eventual erection into a partitioned box, the method comprising securing an attachment flap of a collapsible partition assembly to one side wall panel of a blank having a plurality of side wall panels, and then securing together opposite ends of the blank to provide a collapsed tube containing the partition assembly.

2. A method as claimed in claim 1, in which an edge of the attachment flap is aligned with a register mark on the said one side wall panel.

3. A method as claimed in claim 1 or 2, in which the blank has four side wall panels disposed in a row, the attachment flap being secured to one of the inner side wall panels.

4. A method of assembling a composite construction, substantially as described herein with reference to the accompanying drawings.

5. A composite construction for eventual erection into a partitioned box, assembled by a method in accordance with any one of the preceding claims.

Printed for Her Majesty's Stationery Office by The Tweeddale Press Ltd., Berwick-upon-Tweed, 1981.

Published at the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.